

WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

an anode driver and a cathode driver laid out equally

5 in a chip; and

memory portions connected to the drivers, each memory portion arranged equally in the vicinity of each of the driver,

wherein the semiconductor device is made in one chip with the drivers and memory portions.

10 2. The semiconductor device according to claim 1,

wherein the drivers connected to the memory portions are divided into plural groups and each of the memory portions is arranged in every group.

15 3. The semiconductor device according to claim 1,

wherein the drivers connected to the memory portions are placed face to face at right and left positions or high and low positions of the chip, and each of the memory portions is arranged at
20 center portion of the chip.

4. The semiconductor device according to claim 1,

wherein each of the drivers includes a plurality of output regions corresponding to one bit constituting an output bit

25 group, the semiconductor device further comprising a dummy

pattern having the same shape as the output bit formed to be adjacent to the end portion of the output bit group.

5. The semiconductor device according to claim 4,
5 wherein the dummy pattern is formed at an empty space in a region where a plurality of output bits are arranged.

6. The semiconductor device according to claim 4,
10 wherein number of outputs of the dummy pattern formed at a region where output bit groups are adjacent each other is less than number of outputs of the dummy pattern formed at a region where output bit groups are not adjacent each other.

7. The semiconductor device according to claim 4,
15 wherein the dummy pattern has the same shape as a wiring for gate electrode.

8. A semiconductor device for drivers made in one chip comprising:

20 output regions corresponding to one bit arranged to constitute output bit group,

wherein a plurality of the output group are arranged at periphery portion in the chip.

25 9. The semiconductor device according to claim 8

further comprising wirings connected to each of the output bit groups arranged at the periphery portion arranged to circle fitting shape of the chip.

5 10. The semiconductor device according to claim 8, further comprising:

 drivers having the output regions corresponding to one bit to constitute the output bit groups;

 memory portions; and

10 wirings connected to each of the output bit groups,

 wherein the drivers are arranged at periphery portion in the chip in a state that the drivers are grouped by every desired output bit group,

 wherein the wirings connected to each of the output bit groups arranged at the periphery portion is arranged to circle fitting shape of the chip,

 wherein the semiconductor device constitutes a display driver.

20 11. The semiconductor device according to claim 10, wherein the drivers includes an anode driver and a cathode driver, and the drivers are arranged at periphery portion in the chip in a state that one of the anode driver and the cathode driver is grouped by every desired output bit group.

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12. The semiconductor device according to claim 9,
wherein the wirings include a power source line and a signal
line.

5 13. The semiconductor device according to claim 10,
wherein the each output bit group is arranged to surround the
memory portions at the periphery portion.

10 14. The semiconductor device according to claim 10,
further comprising a dummy pattern having the same shape as
the output bits formed to be adjacent to the end portion of
the output bit group.

15 15. The semiconductor device according to claim 14,
wherein the dummy pattern is formed at an empty space in a region
where a plurality of output bits are arranged.

20 16. The semiconductor device according to claim 14,
wherein number of outputs of the dummy pattern formed at a region
where output bit groups are adjacent each other is less than
number of outputs of the dummy pattern formed at a region where
output bit groups are not adjacent each other.

25 17. The semiconductor device according to claim 14,
wherein the dummy pattern has the same shape as a wiring for
gate electrode